# MARK DALE

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## Objective

To learn, implement and support application development using the latest information management technologies as they provide competitive advantages in the marketplace.

## Skills Summary

- Cloud technologies: client side development using Spark, Kafka, HDFS, and Hive...User exposure to AWS (Glue, S3, Batch), Terraform provisioning and Ansible scripting.
- Programming languages: Python, Scala, Java, C/C++, C.
- Frameworks and APIs: Spark (kafka streaming), Spring Boot, gSOAP, GNOME XSLT C.
- Scripting languages: Python, Perl, Shell;bash, korn, and Z (some awk and sed also).
- Configuration formats: YAML, JSON, XML.
- Command-line editing with vi.
- Operating systems Mac/Unix/Linux and Windows.
- IDEs: Eclipse, IntelliJ.
- Build tools: maven, gradle, make and gmake.
- Version control tools: Git, Clearcase (IBM), CM_Synergy and RCS.
- RDBMS/SQL: Snowflake, Hive, SQL_Server, MariaDB, Teradata, Oracle and Informix.
  - ✓ SnowSQL
  - ✓ Teradata utilities Bteq, FastLoad, FastExport and Data Mover
  - ✓ Oracle utilities PL/Sql, sqlplus, sqlldr, Pro*C and OCCI compilers
  - ✓ Informix utilities ESQL/C compiler

## Experience

### *Walt Disney Parks & Resorts*

***Lead Information Management Engineer – 06/2015 to 09/2021***

- Enhanced/modified a Python application/framework (AWS Glue extract launcher) to include/fix Time Zone irregularities that caused inconsistencies in data selection criteria (08/2020).

- Built and used scripting tool (Python3) to automate configuration for data extracts (based on YAML configurations) to move table data from Oracle sources (on prem and in Cloud) to AWS/S3 extract files for 100's of tables.  Tested and promoted the extract configurations along with the corresponding UC4 job configurations through dev, stage, to production environments (UC4 migration and git-based CICD for YAML configurations).  Tested and monitored progress using AWS console for Glue jobs, Batch jobs, and S3 objects(03-08/2021).
- Built and used data equality tester app for comparing data values between source (Teradata) and target (Snowflake) DBMSs (used Python3 with smart_open module).  Automatically generated reports that were written to AWS/S3.  Posted findings in project management tool (Jira) (05/2020-01/2021).
- Engaged in several weeks of on-line training in Ansible.  Proposed a strategy for checking connection integrity for every application on every node in the cluster (04/2020).
- Built, enhanced and maintained a real-time data ingestion pipeline moving JSON message data (real-time sourced from POS system) from Kafka (queuing system) to HDFS (Hadoop Distributed File System).  Used Scala and the Spark framework with the Kafka streaming API to accomplish this.  Also developed a high performance application (Java command-line app) for consolidating small files created by the Spark streaming micro-batches (02/2017-12/2019).
- Supported a vendor-based Hierarchical database system (mastered location data), adding a REST service component (Java/Spring boot) for serving up location data for daily batch ETL workflows (part of DMI project) (09/2017-02/2020).
- Provided application development and support for two internally developed ETL frameworks (one Java and one Python)(01/2015-02/2020).  These frameworks are used to configure and automate the execution of specific ETL workflows using Informatica Services, Oracle automation scripts (sqlplus, sqlldr), and Teradata automation facilities (BTEQ, FastLoad, FastExport, etc).  This hybrid collection of tools is organized as processes that are managed and controlled through Job control software UC4 and Maestro (IBM).  Some notable accomplishments:
  - ✓ Stabilized Java ETL framework and reduced framework related production incidents from 60+ to 0 average incidents per week (01-02/2015).
  - ✓ Aided the completion of 3 major projects (STARS, DVC CALM, and DINE TIME) stalled for lack of funding (01-06/2016) by developing a REST service (Java) application for launching jobs on demand, and repairing 2 custom REST client applications for retrieving JSON data and converting to XML files suitable for feeding a legacy batch file ETL process.

Pertinent Skills...
Programming: Scala, Spark framework, Kafka/Spark streaming library-API, Java, HDFS java client, Teradata Java client, Java Spring Boot Framework, ksh, bash, perl, python.
IDE: Eclipse (SpringToolSuite and SCALA IDE), Intellij.
DB Tools: Teradata bteq, Teradata Studio Express.

Build technology: gradle, maven.
Version control: git.


## Walt Disney Parks & Resorts

### Information Architect – 06/2014 to 06/2015

Researched solutions and provided direction for a large-scale IT project to better personalize the guest experience from online shopping to reservation booking to hotel registration to theme park experiences.  Primary responsibilities included maintaining communications between disparate development groups for large scale project technical design and implementation.  These groups included:

- Data warehouse workflow designers.
- Data modelers.
- Master data management support.
- Middleware support.
- Online Web development.
- Platform design engineers.
- System administration.


## Walt Disney Parks & Resorts

### Senior DBA – 06/2012 to 06/2014

Served on a team of 4 DBAs to maintain the "Disney Data Difference" (D3) Teradata data warehouse ecosystem (test and production for a third normal form data integration warehouse and multiple business-centric star schema data marts).  Passed the 1st level Teradata 12 Professional Certification Exam.

Some specific responsibilities included:

- DDL execution (table creation, etc.) in Test and Production environments.
- Managing user roles and access.
- Admin process automation
  - ✓ Teradata Data Mover job automation using XSLT and shell scripting.
  - ✓ Automated monitoring and rolling the date partitioned data window for date partitioned tables.

Pertinent Skills…
Programming and automation: Teradata, ksh, Perl, SQL, xsltproc.
DB Tools: Teradata bteq, FastLoad, FastExport, Data Mover, Teradata Studio Express, Teradata SQL Assistant.

## *Walt Disney Parks & Resorts*

### *Senior Application Developer – 05/2007 to 06/2012*

Served as lead developer on the GOMaster project (a tier 1 OLTP application still in production today).  Designed and implemented scalable application infrastructure for operational (real-time) guest data integration and guest recognition.  Data ingestion capability integrated batch and real-time data feeds using multi-processing, message queuing and web services. The Web Service interface (from gSOAP code generator), and external message queuing devices (IBM MQ Series) handle real-time transactional guest interaction data which is then funneled into a layer of Posix queues which are the data source for a scalable layer of Guest Data Integration (GDI) processors that transform the data and load it into an Oracle RAC cluster.  Batch data is fed in through a separate set of Posix queues with a corresponding set of GDI processes…so the same rules are configured and exercised for ingesting real-time data and batch data. Primary responsibilities included:

- Overall design of the system and its components
  - ✓ An interface that accommodated batch file processing, Web Service (SOAP) messaging, and reading Enterprise Application message queues (IBM MQ Series).
  - ✓ A rules engine for data transformations.
  - ✓ A rules engine for executing CRUD logic.
  - ✓ A framework to simplify/standardize application components for logging, IPC device interactions (Posix queues), and application properties ingestion.
  - ✓ Used C/C++ and gSOAP Web Service code generation tool to eliminate need for and cost of IBM Websphere licensing, and significantly reduce the resource footprint.
- Coded the rules engine, and primary data integration application, collaborating with a team member to integrate these modules with a homespun framework for interacting with the IBM MQ Series platform.
- Aided in setting up server architecture and software installations for supporting IBM MQ Series, Oracle client, Posix queues, gSOAP and supporting shared libraries.
- Designed and coded the project build automation using gmake (GNU make) and Apache Xerces (interface code generator).
- Designed, documented and automated a deployment system for new releases.
- Integrated company standard version control tools (CM_Synergy initially, and later Clearcase).
- Created a REPL (read-eval-print-loop) shell for testing transformation rule configurations.
- Full time on-call support for hyper care, and thereafter on a rotating basis.
- Maintained a trouble-shooting / enhancement / and general support role for 5 years.

Pertinent Skills…
Programming: C/C++, ksh, Perl, SQL, PL/SQL.
APIs: Oracle Pro*C, Oracle OCCI, PostalSoft/FirstLogic, IBM MQ Series, gSOAP, gNome XSLT C, Apache Xerces.
DB Tools: sqlplus, sqlldr, SqlDeveloper.
Build technology: Unix make, Linux gmake.

Version control: CM_Synergy initially, later on Clearcase.

## Walt Disney Parks & Resorts

### Senior Application Developer – 01/2001 to 05/2007

Served as lead developer on the ODS (Operational Data Store) project (this was the precursor/foundational project for the GOMaster project).  Designed and implemented a Mastered guest data application for real-time guest recognition.   Primary responsibilities included:

- Overall design of the system, which required a rules engine for data transformation, CRUD logic implemented in stored procedures (Oracle), a custom functional C library for IPC device interactions (semaphores and pipes), logging, DB transactions, and application properties ingestion, and a data exchange interface using Enterprise queuing system (IBM MQ Series).
- Designed and coded the project build automation.
- Designed, documented and automated a deployment system for new releases.
- Integrated company standard version control tools and release management tools.
- Provided trouble-shooting, enhancement coding and on-call support on a rotating basis for 6 years.

NOTE: the ODS project became Tier 1 in 2005 when the DREAMS project went live and used the ODS application as its system of record for guest recognition data.

Pertinent Skills…
Programming: C, ksh, Perl, SQL, PL/SQL.
APIs: Oracle Pro*C, PostalSoft, IBM MQ Series.
DB tools: sqlplus, sqlldr, sqldeveloper.
Build technology: Unix make.
Version control: CM_Synergy.

## Walt Disney Parks & Resorts

### Senior Application Developer  – 12/1998 to 12/2000

Served as lead developer on the MDB (Marketing Database) project (this was the precursor to the ODS project; that is the ODS project sourced much of its initial data from the MDB). Took over full technical support for the project (previously supported by technical contracting firm; Epsilon, out of Boston).   Primary responsibilities included:

- Weekend on-call.
- Bug fixes and coding enhancements.

Some notable accomplishments:

- Refactored guest matching process, reducing guest duplication from 1000+ per week to less than 1 per week.

- Refactored batch process for integrating and mastering guest data (called the MDB re-house-holding" project), correcting numerous "house-holding" errors and increasing the marketable guest instances by over 300k.
- Designed a process for matching and merging individual guest data as a transaction in sub-second time against a database of 80 million guests.  This proved the concept for real-time guest data ingestion and mastering, contributing to the direction and funding for the ODS project.

Pertinent Skills…
Programming: C, ksh, Perl, SQL.
APIs: Informix ESQL/C and PostalSoft.
Build technology: Unix make.
Version control: RCS.

## Education

### BS Forestry/University of Massachusetts (Amherst)

Graduated 05/1981

GPA 3.81

Transcripts available on request

### Hudson Valley Community College (Troy, NY)

Attended part-time 06/1984 to 12/1985

Calculus 1 & 2 (Both Grade: A)

Physics 1 & 2 (Both Grade: A)

Transcripts available on request